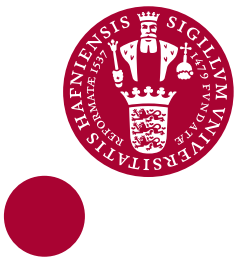

Can the relation between short sleep duration and obesity be observed in early childhood?

Klingenberg, Lars; Chaput, Jean-Philippe; Christensen, Line Brinch; Sjödin, Anders Mikael; Mølgaard, Christian; Michaelsen, Kim F.

Published in:
Obesity Reviews

Publication date:
2010

Document version
Publisher's PDF, also known as Version of record

obesity reviews

Volume 11 Supplement 1 2010

Abstracts of the 11th International Congress on Obesity (ICO)

11–15 July 2010

Stockholm, Sweden

WILEY-BLACKWELL

:PO.382

m anthropometry references for 10- to 18-year-olds the Autonomous Region of Madeira, Portugal

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roduction: Arm anthropometry is an important approach to eval- te nutritional status. The aim of this study was to develop anthro- metric references for several arm measurements: [mid-upper arm cumference (MUAC), triceps skinfold thickness (TST), upper arm iscular circumference (UAMC), upper arm total area (UATA), per arm muscular area (UAMA) and upper arm fat area (UAFA)] age and gender of 10 to 18 year-old people of the Autonomous gion of Madeira, Portugal (RAM).

ethods: The data was collected cross-sectionally between October 07 and June 2009 in a representative sample of 4603 adolescents, 06 girls and 2197 boys, aged between 10 and 18 years-old. UAC and TST were measured using standardized procedures and AMC, UATA, UAMA and UAFA were calculated. To elaborate the ferences, the smoothed percentile and z-scores curves for age and nder were estimated between 120-228 months (at six months tervals) using the LMS statistical procedure.

esults: Mean and standard deviation values as well as charts of noothed percentiles curves (P1, P3, P5, P10, P25, P50, P75, P90, 95, P97 and P99) and z-scores (-2, -1, 0, 1 and 2) are presented by ge and gender for MUAC, TST, UAMC, UATA, UAMA and AFA.

onclusion: Charts for Madeira adolescents' arm anthropometry hich reflect the characteristics of this population are useful tools in inical settings and community practice.

onflict of interest: None.

unding: Research relating to this abstract was funded by 'Centro e Ciência e Tecnologia da Madeira'.

4:PO.383

Veight, height and BMI references for 10- to 18-year-lds in the Autonomous Region of Madeira, Portugal

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ntroduction: Nutritional and growth monitoring require up-to-date eference growth data built from representative samples of the popu- ation. The aim of this study was to develop anthropometric refer- nces for weight, height and body mass index (BMI) for age and ender of 10 to 18 year-old people of the Autonomous Region of Madeira, Portugal (RAM).

Methods: The data was collected cross-sectionally between October 007 and June 2009 from a representative sample of 4603 adoles- ents, 2406 girls and 2197 boys, aged between 10 and 18 years-old. Weight and height were measured using standardized procedures and BMI (kg/m^2) was calculated. To elaborate the references, the moothed percentile and z-scores curves for age and gender were stimated between 120–228 months (at six months intervals) using he LMS statistical procedure.

Results: Mean and standard deviation values as well as charts of moothed percentiles curves (P1, P3, P5, P10, P25, P50, P75, P90, 95, P97, and P99) and z-scores (-2, -1, 0, 1 and 2) are presented by ge and gender for weight, height and BMI. For BMI percentile 85 is lso shown.

Conclusion: This is the 1st study in Portugal in which anthropomet- ic measurements of a representative sample of 10–18 year-old peo- le were collected, leading to the establishment of local references by age and gender. This research is of great public health value to monitor growth and the nutritional status of Madeira adolescents.

Conflict of interest: None.

Funding: Research relating to this abstract was funded by "Centro de Ciência e Tecnologia da Madeira".

T4:PO.384

Can the relation between short sleep duration and obesity be observed in early childhood?

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Background: Epidemiological studies in adults and children have shown a strong association between short sleep duration and the risk of obesity. Experimental data have suggested several pathways that may predispose short-duration sleepers to obesity. Studies in infants are limited and conflicting.

Methods: Questionnaires and anthropometric data from the Danish SKOT Cohort on complementary and young child feeding were used in this preliminary analysis. Data collected at 9 months (n = 292 [138 boys]; weight = 9.0 ± 1.0 kg) and 18 months (n = 223 [107 boys]; weight = 11.2 ± 1.1 kg) were analyzed. The WHO Growth Standard sex adjusted body-mass-index-for-age z-score (BMI z-score) was the main outcome measure. Night hours spent in bed (HB) was used as an indicator of sleep. The model was adjusted for gestational age, birth weight, partial breastfeeding, household income, and smoking during pregnancy. These covariates are all known to play a role in obesity and/or infant sleep.

Results: HB was 10.7 ± 0.73 hours and 10.9 ± 0.66 hours for 9 and 18 months, respectively. BMI z-score was 0.34 ± 0.98 and 0.54 ± 0.97 for 9 and 18 months, respectively. The adjusted correlations between HB and BMI z-score for 9 and 18 months were 0.014 (P = 0.82) and −0.079 (P = 0.24), respectively. Hence, no significant association existed between sleep and BMI z-score for either 9 or 18 months in this cohort. Likewise, we did not find associations of sleep duration with other indices of adiposity such as waist circumference and skin fold thickness.

Conclusion: Our results do not show any relation between sleep length and BMI z-score in infants. These results suggest that short sleep duration does not seem to be a major contributor to the adiposity phenotype at this age. Future studies using objectively measured sleep will be needed.

Conflict of interest: None disclosed.

Funding: The SKOT cohort study is funded by the Danish Food Industry Agency.

T4:PO.385

Obesity risk linked to the rs9939609 polymorphism of the FTO gene is influenced by dietary intake in Spanish children and adolescents

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Introduction: The FTO rs9939609 variant has shown a strong association with obesity-related traits in several genomewide association studies. In this context, the impact of this polymorphism and its rela-